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ABSTRACT

A 21-item questionnaire was used to examine the attitudes of 120 student teachers before and after their field experiences. Topics covered included teaching methods, teacher-student relationships, and lesson preparation. Mean difference scores were examined from the viewpoint of student teachers' sex, type of class taught (elementary, secondary, or special), and subject area. When the scores were compared for sex, it was apparent that men tended to value authoritarianism more after student teaching, while women's attitudes tended to remain unchanged or to be reduced toward favoring authoritarianism. Both men's and women's reliance on lesson preparation reduced during the student teaching. The type of class taught did not seem to influence changes in the student teachers' values. Due to the relatively small number of student teachers in each subject area, specific differences across subject groups were not interpreted. The investigation showed that student teachers valued traditional educational principles and practices less after the student teaching experience. (FG)

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Abstract

Student Teacher Educational Values: Changes Resulting from Student Teaching

This study focuses on changes in attitudes that might occur from the student teaching experience. A questionnaire was administered to 120 student teachers at Southern Illinois University-Carbondale as a pretest and posttest. It was found that some traditional educational principles and practices tend to be valued less after student teaching.

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STUDENT TEACHER EDUCATIONAL VALUES:
CHANGES RESULTING FROM STUDENT TEACHING

INTRODUCTION

For some time, educators have been interested in the factors contributing to successful teaching. A common theme focuses on the traits, attitudes, and behavioral characteristics of teachers (Nelli, 1981; Holly and Blackman, 1981; Brophy, 1979). Others have examined the affects that student teaching experiences have on later classroom success (Dispoto, 1980; Austin-Martin, 1979; Ross, 1980).

The present study focuses on changes in the attitudes and values of student teachers resulting from the student teaching experience. The authors designed a questionnaire containing 21 statements describing various aspects of the teaching situation. The 21 Likert-type items (strongly agree to strongly disagree) represented aspects of teaching the authors judged as representative of important values and attitudes.

The questionnaire was administered recently to 120 student teachers at Southern Illinois University at Carbondale. Students recorded their degree of agreement with the 21 items at the beginning and again at the end of an 18-week semester. Students also recorded their sex, teaching level (elementary, secondary, or special education), and for secondary students, their area of teaching (English, mathematics, science, etc.)

Of the 120 student teachers included in the study, 69% were female, and 31% were male. Twenty-five percent were in elementary, 54% in secondary, and 21% in special education. For secondary students, 15%

were in English, speech or foreign language, 3% in mathematics, 6% in science, 30% in physical ed or health ed, 26% in vocational ed, 12% in fine arts, and 8% in social studies (numbers ranged from 2 to 20).

Questionnaires were scored by using Likert-type scaling (1 to 5) to indicate the degree of agreement of each student with each statement. The 21 items included are listed below in Figure I for reference. Students responded by recording their degree of agreement with each statement. For each item, scores were computed for pretest and posttest responses. The difference between posttest and pretest responses represented a difference or change score on each item. As discussed below, a factor analysis of pretest results allowed 7 additional difference scores to be subjected to analysis. Thus, 28 variables constituted the basic dependent variables of the study.

Figure I

Mean difference scores for the 28 dependent variables were examined by t-test to detect changes resulting from the student teaching experience. In addition, mean difference scores were examined from the standpoint of possible sex differences, class-type differences, or subject area differences. Different patterns of change as a function of these several independent variables could suggest just how student teaching experience impacts student attitude in different types of teaching situations.

RESULTS AND DISCUSSION

Factor Analysis

As a preliminary step, pretest responses on the 21 items of the student teacher questionnaire were submitted to a factor analysis. The

authors were interested in the possibility that the student teacher responses on the 21 items could be accounted for by a fewer number of underlying variables.

The matrix of intercorrelations of the 21 items were factor analyzed by the method of principal axes. Seven factors were found to account for variance in excess of 1.00. These seven factors were then rotated by the promax technique, which results in non-orthogonal factors. Table A presents the factor loading of each of the items on the resulting factors.

Table A

Examination of the items loading at a criterion level of .45 or more on each factor suggested the psychological values underlying each factor. These are summarized below. Only items 6, 11, and 18 failed to load at the criteria level on any factor.

Factor 1 loaded on six items which suggested the use of different types of teaching methods. Each item focused on non-verbal or non-lecture type instruction. Factor 1 was therefore tentatively labeled "Variety in Teaching Methods value."

Factor 2 was influenced by three items associated with the influence of the social and policy environment of the school on the teaching situation. This factor was tentatively labeled "Social and Policy Environment Influence."

Factor 3 was defined by two items, each of which focused on the time required for preparation. It was thus tentatively labeled "Value of Preparation."

Factor 4 seemed to be associated with four items dealing with student motivation and student-teacher rapport. It was tentively labeled "Value of Student Rapport and Motivation."

Factor 5 was less clear in terms of the content of items loading on it. All seven seemed to have to do with commonly endorsed principles of teaching (e.g., student reinforcement, reading periodicals, etc.). Quite tentatively, this factor was labeled "Value of Professionalism and Theoretical Emphasis."

Factor 6 seemed clearly associated with four items describing student participation. Consequently, it was labeled "Value of Student Participitation."

Factor 7, which correlated negatively with all other factors, seems associated with three items having to do with authoritarian style. It was thus labeled "Value of Authoritarianism."

The authors computed "factor scores" on each of the seven factors based on the average rating of the items defining each factor. These scores were used in further analyses.

Table B presents the intercorrelations between the 7 factors. As can be seen, no intercorrelation is extremely high. In general, however, the directions of the correlations are consistent with the labeling of the factors. For example, the largest correlation is between factor 4, "Value of Student Rapport and Motivation" and factor 7, "Value of Authoritarianism." This negative correlation seems consistant with what would be expected for such variables.

Table B

Pretest-Posttest Correlations

Student teachers' pretest scores were correlated with posttest scores as an initial analysis. As expected, all were positive, ranging from .011 (item 21) to .474 (item 10). All but 5 of the correlations proved to be statistically significant at the .05 level with most

significant at the .01 level. These are summarized below in Table C.

Table C

Pretest-Posttest Analyses

Change scores on each of the 21 items and sub-scales based on the items associated with the seven factors were compared by a t-test. Of the 28 t-tests, only two proved to be statistically significant. These were for item 4, "Making lesson plans and unit plans should occupy a large portion of my preparation" ($t=-3.50$, $p<.001$) and factor 4, "Importance of preparation" ($t=-3.50$, $p<.001$). Both results suggest that the student teaching experience served to reduce the value student placed on preparation. Such a finding suggests an incongruity between student expectations and experiences in the teaching situation. Perhaps their preparation was not appropriately matched with the requirements of the teaching situation. On the other hand, it is also possible that their student teaching occurred in situations too ill-structured to make careful preparation worthwhile. Further investigation would be required to clarify just what was occurring.

The data suggested other possible influences on student teacher perceptions. An additional 6 items were found to have t-tests that approached statistical significance ($p<.10$). These included the following items:

Item 2. Enthusiasm of the teacher aids learning by the student ($t = -1.85$, $p<.07$).

Item 9. Making visual aids should occupy an important part of my preparation time for teaching ($t = -1.73$, $p<.09$).

Item 14. Allowing student input in decision making of material to

be covered is important to me ($t = -1.91$, $p<.06$).

Item 17. School policies influence my teaching ($t = -1.70$, $p<.08$).

Item 18. My punctuality and attendance patterns affect my students ($t = -1.80$, $p<.08$).

Item 20. Integrating my subject area with other areas (social studies, literature, etc.) is a desirable practice ($t = -1.67$, $p<.10$).

The striking thing about these results is that all reflect a reduction in the student's values as a function of the student teaching experience. The student teaching experience may either be serving to bring values into reality or possibly to reduce desired values to a level below that which would be ideal. Clearly, more information would be of assistance in sorting out what is happening.

Comparison of Sex Groups

Only two items and one factor approached statistical significance when student teachers "change scores" were compared across sex groups through analysis of variance. These were: Item 1, "Discipline should be tightly structured" ($F = 3.62$, $p<.06$); Item 4, "Making lesson plans and unit plans should occupy a large portion of my preparation to teach" ($F = 4.39$, $p<.04$), and Factor 7, "Value of authoritarianism" ($F = 3.96$, $p<.05$). Mean change scores (posttest-pretest) for males and females for each of these variables, are presented in Table D below.

Table D

Apparently, men tended to value authoritarianism more after student teaching experience (Item 1, Factor 7) and women tended not to change or to reduce. Both men and women tended to value teacher preparation (Item 4) less

after student teaching, but men were more greatly affected.

Comparison of Elementary, Secondary and Special Education

No significant differences were found in the change scores for any of the 21 items or 7 factors among the 3 types of classes in which student teachers participated (elementary, secondary, special education). The type of class seemed not to have influenced changes in student teacher values.

Comparison Across Teaching Areas

Student teachers in secondary school situations participated in 7 different subject areas as follows:

Number of Student Teachers	Subject Area
10	English, Foreign Language, Speech
2	Mathematics
4	Science
20	Physical Ed/Health Ed
17	Vocational Ed
8	Fine Arts
5	Social Studies

Analysis of variance was used to compare change scores on each of the 21 items and the 7 factors across these subject matter areas. Although several analyses approached statistical significance, only two, Item 19, and Factor 4, proved signigicant at $p<.05$. Data are presented below for these results.

Table E

Due to the relatively small number of student teachers in each of subject area group, the authors felt that interpreting specific differences in individual groups was unjustified.

SUMMARY AND CONCLUSIONS

By way of summary, two points seem worthy of noting. First, the factor analysis of student teacher educational values has suggested several dimensions that may be useful in investigating the teacher education process. They should be considered as tentative at present. Further investigation will reveal the ultimate usefulness of these conceptual dimensions. Establishing the construct validity of these concepts could help considerably in investigating the dynamics of the teacher training process.

Finally, the most striking characteristic of the findings is that student teacher's values seem to change as a result of the student teaching experience in a manner unexpected. Traditional educational principles and practices tend to be valued less after student teaching experience. Whether student teachers have been "oversold" prior to student teaching or whether student teaching serves to "undersell" student teachers or merely to bring their values in line with reality is unclear. Further investigation may reveal answers to this question.

Figure 1

Descriptive Statements Included on the Student Teacher Questionnaire

1. Discipline should be tightly structured.
2. Enthusiasm of the teacher aids learning by the student is important to me.
3. Accepting ideas and feelings of the students is important to me.
4. Making lesson plans and unit plans should occupy a large portion of my preparation to teach.
5. Nonverbal communication is important in learning.
6. Formal evaluations of the students are valuable.
7. Teaching my students to evaluate their own progress has real learning value.
8. Rapport with students is important.
9. Making visual aids should occupy an important part of my preparation time for teaching.
10. Field trips are valuable for my students.
11. Using lectures and questioning in my classes would tend to stimulate learning in my students.
12. My teaching area allows for the use of a wide variety of instructional materials.
13. My teaching area allows for a wide use of various teaching methods.
14. Allowing student input in decision making of material to be covered is important to me.
15. Interpersonal relationships with professionals in my school are important.
16. My personal appearance influences my students.
17. School policies influence my teaching.
18. My punctuality and attendance patterns affect my students.
19. Reinforcement of students is important.
20. Integrating my subject area with other areas (social studies, literature, etc.) is a desirable practice.
21. Reading current periodicals in my area is of value.

Table A

PROMAX ROTATED
FACTOR STRUCTURE MATRIX

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 5	Factor 7
1	-.11	-.01	.06	-.09	.01	-.02	.82
2	.07	.01	-.08	.74	.07	.01	.03
3	.13	.17	.23	.56	.03	.54	-.48
4	.15	.09	.81	-.03	.04	.11	.13
5	.55	.20	.35	.49	.43	.13	-.36
6	.06	.37	.39	.16	.28	.13	-.21
7	.19	.39	.23	.41	.46	.59	-.30
8	.15	.25	.44	.60	.45	.05	-.46
9	.53	.05	.66	.27	.24	.37	-.28
10	.71	.14	.19	.26	.42	.33	-.15
11	.11	.15	.38	-.16	.32	.51	.16
12	.79	.21	.23	.00	.06	.17	-.06
13	.65	.39	.27	.10	.10	.32	-.31
14	.37	.07	.13	.03	.21	.84	-.02
15	.30	.70	.31	.26	.17	.28	-.20
16	.21	.64	-.24	.03	.45	-.06	.03
17	.06	.79	.14	.09	.31	.12	-.06
18	.34	.43	.38	.10	.62	.16	.04
19	.09	.27	.16	.28	.74	.28	-.11
20	.64	-.18	-.03	.31	.47	.14	-.06
21	.25	.22	.07	.01	.71	.15	-.05
Variance Explained	3.13	2.55	2.33	2.07	3.06	2.27	1.70

Table B

INTERFACTOR CORRELATIONS

Factor	Factor						
	1	2	3	4	5	6	7
1	1.00	.13	.18	.17	.28	.23	-.13
2	.13	1.00	.20	.09	.26	.16	-.15
3	.18	.20	1.00	.18	.16	.27	-.22
4	.17	.09	.18	1.00	.24	.14	-.39
5	.28	.26	.16	.24	1.00	.17	-.08
6	.23	.16	.27	.14	.17	1.00	-.16
7	-.13	-.15	-.22	-.39	-.08	-.16	1.00

Table C

PRE-POST CORRELATIONS

Item	Correlation
1	.40**
2	.10
3	.25**
4	.38**
5	.24*
6	.28**
7	.22*
8	.17
9	.36**
10	.47**
11	.27**
12	.26**
13	.20*
14	.34**
15	.26**
16	.19*
17	.03
18	.15
19	.08
20	.38**
21	.01

*p<.05
**p<.01

Table D

CHANGE SCORE MEANS FOR MEN AND WOMEN

	Item 1	Item 4	Factor 7
Men (n = 32)	.38	-.78	.11
Women (n = 76)	-.07	-.28	-.09

Table E

MEAN CHANGE SCORES BY SUBJECT AREA
FOR ITEM 19 AND FACTOR 4

	Item 19[1] Mean	Factor 4[2] Mean	N
English	.20	.23	10
Mathematics	-2.00	-1.13	2
Science	.00	-.06	4
P.E. - Health	.20	.21	20
Vocational Ed.	.12	-.13	17
Fine Arts	-.50	-.63	8
Social Studies	.40	.25	5
F*	2.87	2.69	
P less than	.02	.03	

(1) Item 19: Reinforcement of student is important.

(2) Factor 4: Importance of student rapport and motivation.

*DF = 6, 59

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